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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,730	03/19/2004	Brian Farrell	FM-208J	8270

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EXAMINER

WORRELL JR, LARRY D

ART UNIT	PAPER NUMBER
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3765

MAIL DATE	DELIVERY MODE
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01/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/804,730	Applicant(s) FARRELL ET AL.	
	Examiner Danny Worrell	Art Unit 3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-23,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) 7,8,15-23 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9-14 and 26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 9, 11-14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al (U. S.P. 6,420,008) in view of Akram (U.S.P. 6,785,144) and further in view of Kohama et al (U.S.P. 6,412,701).

The patent to Lewis et al discloses an electrically active textile article comprising fabric (see col. 3, lines 55-58), a flexible circuit (46, Fig. 2) formed on a flexible substrate (14, Fig. 1) secured to the fabric (see col. 3, lines 21-24 and lines 55-58 and col. 4, lines 38-39), and at least one electronic component (e.g. the electronic components that are connected to form the Binary Counter shown in Fig. 2) populating the circuit. The flexible substrate (14, Fig. 1) is a printed circuit board. It would have been obvious to construct the circuit with traces and pads as suggested by Akram (see col. 4, lines 51-62) since these traces and pads are commonly used in printed circuit boards to interconnect various electronic components. Also an adhesive rather than a thermoplastic reflow process such as ultrasonic welding secures the fabric. The disclosure of Kohama et al. teaches ultrasonic welding as a means for securing fabrics with circuits. It would have been obvious at the time the invention was made to provide the securing means as a thermoplastic reflow process such as ultrasonic welding rather than

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adhesive in order to provide a more permanent attachment of the fabrics. With regard to claim 9, note protective covering (12).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al in view of Akram in view of Kohama et al (U.S.P. 6,412,701) and further in view of Benniou (U.S.P. 4,774,434).

The protective covering of the combined teachings is not set forth as being waterproof. To construct the protective covering of Lewis et al from a waterproof material as suggested by Bennion (at col. 1, lines 61-64) would have been obvious since the circuit would be protected from malfunctioning in a wet environment.

Claims 7, 8, 15-23, and 25 remain withdrawn from further consideration .

Response to Arguments

Applicant's arguments filed 10/16/08 have been fully considered but they are not persuasive.

Applicant initially argues that the reference of Lewis does not teach adhering a PC board to a fabric. The examiner disagrees. Initially it should be noted that the requirements of claim 1 are as follows: An electrically active textile article comprising: fabric; a flexible circuit including traces and pads on a flexible substrate, said substrate welded onto the fabric by a thermoplastic reflow process; and at least one electronic component populating the circuit.

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The electrically active textile article of Lewis clearly shows a flexible circuit (46) on a flexible sheet (14) adhered to a fabric via an adhesive sheet and as such meets the basic requirements of claim 1. The only differences are the specific circuit elements claimed (traces and pads) and the specific method of adhering the substrate to the fabric (welded onto the fabric by a thermoplastic reflow process). As applicant has not argued the obviousness of combining Akram's traces and pads to the circuit of Lewis, the point of contention is the modification of the means for adhering. Kohama et al (U.S.P. 6,412,701) shows reflowing thermoplastics in order to weld elements as broadly claimed and the inclusion of such a process would have been obvious as set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Worrell whose telephone number is 571/272-4997. The examiner can normally be reached on MONDAY-THURSDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GARY WELCH can be reached on 571/272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Danny Worrell/
Primary Examiner, Art Unit 3765

LDW